



**Guang Dong Xinbao
Electrical Appliances Holdings Company Limited**

Application
For
Certification
(FCC ID: VIU124)

Induction Cooker

0716793
AL/ Joyce Ng
November 19, 2007

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MEASUREMENT/TECHNICAL REPORT

**Guang Dong Xinbao Electrical Appliances Holdings Company Limited -
MODEL: IC3702C**

FCC ID: VIU124

November 19, 2007

This report concerns (check one:) Original Grant X Class II Change _____

Equipment Type: Induction cooker

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes _____ No X

If yes, defer until: _____
date

Company Name agrees to notify the Commission by: _____
date

of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 18.123? Yes _____ No X

If no, assumed Part 18 for induction cooker - the new 47 CFR Part 18 [10-01-06 Edition] provision.

Report prepared by: Lo Po Kong, Alfred
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List of attached file

Exhibit type	File Description	filename
Test Report	Test Report	report.pdf
Operation Description	Technical Description	descri.pdf
Test Setup Photo	Radiated Emission	radiated photos.doc
Test Setup Photo	Conducted Emission	conducted photos.doc
External Photo	External Photo	external photos.doc
Internal Photo	Internal Photo	internal photos.doc
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf

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EXHIBIT 1

GENERAL DESCRIPTION

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1.0 **General Description**

1.1 Product Description

The Equipment Under Test (EUT) is an induction cooker which is powered by AC 120V 60Hz and operating at around 22kHz frequency. It has several functions as mentioned in the user manual, it can deliver different heating power (400W, 600W, 800W, 1000W, 1200W and maximum 1400W), it can be operated in warming state in different temperature setting (150°F, 200°F, 250°F, 300°F, 350°F and 400°F), it also can be operated in timer mode, the maximum set time is 23 hours and 59 minutes. Moreover, it has some safety protection functions, such as input voltage, small metal parts, no pan or improper pan and over temperature. If the induction cooker detects the above fault it will adjust the internal setting or stop the operation automatically.

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

1.2 Related Submittal(s) Grants

This is an application for certification of a induction cooker. No other related submittal grants.

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1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in FCC/OST MP-5 (1986). All measurements were performed in Open Area Test Sites. Preliminary scans were performed in the Open Area Test Sites only to determine worst case modes. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the “**Justification Section**” of this Application.

1.4 Test Facility and Test Equipment Used

The open area test site and conducted measurement facility used to collect the emission data is located at Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong. This test facility and site measurement data have been fully placed on file with the FCC.

Used Testing Equipment:

Equip-ment No.	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Data
EW-0015	EMI Test Receiver	R & S	ESHS30	827128/009	09/05/2007	09/05/2008
EW-0191	Loop Antenna	EMCO	6502	9206-2760	16/01/2007	16/07/2008
EW-0017	EMI Test Receiver	R & S	ESHS30	842053/002	07/03/2007	07/03/2008
EW-0192	LISN	R & S	ESH3-Z5	828874/016	25/10/2006	25/10/2007
EW-0698	Pulse Limiter	R & S	ESH3-Z2	830.836/033	18/07/2006	18/07/2008

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EXHIBIT 2

SYSTEM TEST CONFIGURATION

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2.0 **System Test Configuration**

2.1 Justification

The EUT was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in FCC/OST MP-5 (1986).

The EUT was powered by 120V a.c..

For maximizing emissions, the EUT was rotated through 360°, the antenna height was fixed at around 2 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

2.2 EUT Exercising Software

There was no special software to exercise the device. Once the EUT is turned on, it emits the RF noise.

2.3 Special Accessories

There are no special accessories necessary for compliance of this product.

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2.4 Equipment Modification

Any modifications installed previous to testing by Guang Dong Xinbao Electrical Appliances Holdings Company Limited will be incorporated in each production model sold/leased in the United States.

No modifications were installed by Intertek Testing Services.

2.5 Measurement Uncertainty

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

2.6 Support Equipment List and Description

This product was tested with a 16.5cm diameter stainless steel pot which was provided by applicant.

All the items listed under section 2.0 of this report are

Confirmed by:

*Lo Po Kong, Alfred
Technical Manager
Intertek Testing Services Hong Kong Ltd.
Agent for Guang Dong Xinbao Electrical Appliances Holdings
Company Limited*



Signature

November 19, 2007

Date

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EXHIBIT 3

EMISSION RESULTS

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3.0 **Emission Results**

Data is included worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

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3.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization, average factor and distance factor (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

$$FS = RA + AF + PD + AV - DF$$

where FS = Field Strength in dB μ V/m

RA = Receiver Amplitude (including preamplifier) in dB μ V

AF = Antenna Factor in dB (including the cable factor)

PD = Pulse Desensitization in dB

AV = Average Factor in -dB

DF = Distance Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

$$FS = RA + AF + PD + AV - DF$$

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3.1 Field Strength Calculation (cont'd)

Example

Assume a receiver reading of 39.0 dB μ V is obtained. The antenna factor of 10.6 dB is added. The pulse desensitization factor of the spectrum analyzer was 0 dB, and the resultant average factor was 0 dB, however, the distance factor is -20 dB. The net field strength for comparison to the appropriate emission limit is 29.6 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

$$RA = 39.0 \text{ dB}\mu\text{V}$$

$$AF = 10.6 \text{ dB}$$

$$PD = 0 \text{ dB}$$

$$DF = 20 \log(3/30) = -20\text{dB}$$

$$AV = 0 \text{ dB}$$

$$FS = 39 + 10.6 - 20 = 29.6 \text{ dB}\mu\text{V/m}$$

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm} [(29.6 \text{ dB}\mu\text{V/m})/20] = 30.2 \mu\text{V/m}$$

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3.2 Radiated Emission Configuration Photograph

For electronic filing, the radiated emission configuration photographs are saved with filename: radiated photos.doc.

Worst Case Radiated Emission
at
0.0220 MHz

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3.3 Radiated Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 31.6 dB margin

The radiated emission test was observed up to 30MHz

TEST PERSONNEL:



Signature

Tam Ka Po, Sylvia, Compliance Engineer
Typed/Printed Name

November 19, 2007
Date

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Applicant: Guang Dong Xinbao Electrical Appliances
Holdings Company Limited
Model: IC3702C

Date of Test: 6 October, 2007.

Table 1

Radiated Emissions
Pursuant to FCC 18.305(b) emissions requirement

Frequency (MHz)	Reading (dB μ V)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Calculated at 30m (dB μ V/m)	Limit at 30m (dB μ V/m)	Margin (dB)
0.022	37.5	14.4	51.9	31.9	63.5	-31.6
0.030	21.8	12.7	34.5	14.5	63.5	-49.0
0.040	22.9	11.9	34.8	14.8	63.5	-48.7
0.044	30.3	11.9	42.2	22.2	63.5	-41.3
0.050	27.4	11.3	38.7	18.7	63.5	-44.8
0.070	27.9	11.0	38.9	18.9	63.5	-44.6
0.090	28.1	10.6	38.7	18.7	63.5	-44.8
0.533	38.6	10.6	49.2	29.2	63.5	-34.3
1.725	29.4	10.6	40.0	20.0	63.5	-43.5
3.704	25.2	10.5	35.7	15.7	63.5	-47.8
5.563	22.5	10.5	33.0	13.0	63.5	-50.5
28.370	23.1	9.3	32.4	12.4	63.5	-51.1

Notes: 1. Average Detector Data unless otherwise stated.

2. Negative value in the margin column shows emission below limit.

3. Frequency range scanned: 9kHz to 30MHz

4. Only emissions significantly above equipment noise floor are reported.

5. A closer fixed distance was used for testing and 1/d attenuation law factor was used.

6. Loop antenna was used for the emission below 30MHz.

Test Engineer: Tam Ka Po, Sylvia

FCC ID: VIU124

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3.4 Conducted Emission Configuration Photograph

For electronic filing, the conducted emission configuration photographs are saved with filename: conducted photos.doc.

Worst Case Line-Conducted Configuration
at
0.155 MHz

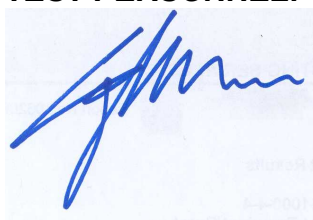
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3.5 Conducted Emission Data

The data on the following page lists the significant emission frequencies, the level and the limit of compliance.

Judgement: Passed by at least 4.6 dB margin

TEST PERSONNEL:



Signature

Tam Ka Po, Sylvia, Compliance Engineer
Typed/Printed Name

November 19, 2007
Date

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EXHIBIT 4

EQUIPMENT PHOTOGRAPHS

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4.0 **Equipment Photographs**

For electronic filing, the external and internal photographs are saved with filename: external photos.doc and internal photos.doc respectively.

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EXHIBIT 5

PRODUCT LABELLING

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5.0 **Product Labelling**

For electronic filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

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EXHIBIT 6

TECHNICAL SPECIFICATIONS

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6.0 Technical Specifications

For electronic filing, the block diagram and schematics of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

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EXHIBIT 7

INSTRUCTION MANUAL

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7.0 **Instruction Manual**

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

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EXHIBIT 8

MISCELLANEOUS INFORMATION

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8.0 **Miscellaneous Information**

This miscellaneous information includes details of the test procedure and calculation of factors such as pulse desensitization and averaging factor.

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8.1 Discussion of Pulse Desensitization

No desensitization of the measurement equipment is required as this device is an induction cooker.

8.2 Calculation of Average Factor

This device is an induction cooker. It is not necessary to apply average factor to the measurement result.

8.3 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services Hong Kong Ltd. in the measurements of induction cooker operating under Part 18, Subpart C rules.

The following is a description of the test procedure used by Intertek Testing Services Hong Kong Ltd. in the measurements of induction cooker operating under Part 18, Subpart C rules.

The test set-up and procedures described below are designed to meet the requirements of FCC/OST MP-5 (1986).

The equipment under test (EUT) is placed on a wooden turntable which is 1.5 x 1 meter dimension and approximately 1 meter in height above the ground plane. During the radiated emissions test, the turntable is rotated to resulting in maximum emissions. The antenna polarization is varied during the testing to search for maximum signal levels. The height of the antenna is set at around 2 meters.

According to FCC/OST MP-5 (1986), the frequency range scanned is 9 kHz to 30MHz in field strength emission. The detector function of the measurement is set to average. For line conducted emission, the frequency range scanned is from 9 kHz to 30 MHz in quasi peak and average measurement.